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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,189	04/25/2001	Govind Malalur	108339-00000	3654
32294	7590	01/12/2006	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P. 14TH FLOOR 8000 TOWERS CRESCENT TYSONS CORNER, VA 22182			NGUYEN, BRIAN D	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/841,189

Applicant(s)

MALALUR ET AL.

Examiner

Brian D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,10-12,14,15,17-20,23-25,27 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 3,8,9,13,16,21,22,26,28 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 21a, 21b, 21c, 22a, 22b, 22c, 23a, 23b, and 23c in paragraph 0028. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 27 and 30-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsui et al (6,347,089).

Regarding claim 27, Tsui discloses a method of handling data packets in a network switch (figure 2), said method comprising the steps of: receiving at a data port (204) an incoming data packet; resolving a destination address of said incoming data packet; discarding, forwarding, or modifying the packet based upon the resolving step (see col. 8, lines 52-55); placing at least a portion of said data packet on a first communication channel (see communication channels to and from port control unit in figure 2), when the packet is to be forwarded; receiving at said data port a section of another data packet on a second communication channel from a common memory (SRAM 205); and forwarding said another data packet from said data port (see col. 4, lines 26-29); wherein said first and second channels are separate from each other (see figure 2 where channels are separate from each other), and wherein the steps are performed in a single network switch on a single substrate with the common memory (see col. 2, lines 33-43).

Regarding claims 30 and 31, Tsui discloses the switch performs layer two/three switching at wirespeed (see col. 2, lines 54-61 and col. 8, lines 52-55 where a data frame is forwarded to a destination port based on its destination address embedded inside the data frame).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui in view of Hegde (6,570,875).

Regarding claim 32, Tsui does not specifically disclose updating address information used in forwarding data packets at the plurality of data ports while the address information is received at one data port of the plurality of data port. However, updating address information is well known in the art. Hegde discloses updating address information (see, for example, the abstract). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to update the address information as taught by Hegde in the system of Tsui in order to correctly forward the packets to its destination.

6. Claims 1, 4-7, 14, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui in view of Muller et al (6,246,680) or LEVEL ONE.

Regarding claims 1, 5, 14, and 18, Tsui discloses a network switch (figure 2) for network communications, said network switch comprising; a first data port interface (201), said first data port interface supporting at least one data port transmitting and receiving data; a second data port interface (201), said second data port interface supporting at least one data port transmitting and receiving data; a common memory (205), said common memory communicating with said first data port interface and said second data port interface; a memory management unit (202), said memory management unit for communicating data from said first data port interface and said second data port interface and said common memory; and at least two sets of communication channels (211, 212), with each of said communication channels communicating data and messaging information between said first data port interface, said second data port interface, and said memory management unit, wherein one set of communication channels of the at least two sets of communication channels provides communication from said first and second data port interfaces to said memory management unit (see 211) and another set of communication

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channels of the at least two sets of communication channels provides communication from said memory management unit to said first and second data port interfaces (see 212), and wherein the first data port interface, the second data port interface, the CPU interface, the common memory, the memory management unit and the at least two sets of communication channels are embodied on a single substrate/ASIC chip (see col. 2, lines 33-43). Tsui does not specifically disclose a CPU interface configured to communicate with a CPU. However, this feature is well known in the art. Both Muller and Level One disclose a network switch that includes a CPU interface for communicating with a CPU (see 215 in figure 2 of Muller and PCI Bus Unit interface in figure 1 of Level One). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a CPU interface as taught by Muller and Level One in the system of Tsui in order to control or program the switch when needed.

Regarding claims 4 and 17, Tsui does not specifically disclose a gigabit port interface. However, both Muller and Level One disclose a gigabit port interface (see col. 3, lines 52-53 of Muller and page 5 of Level One). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the gigabit port interface as taught by Muller and Level One in the system of Tsui in order to increase communication speed.

Regarding claims 6-7 and 19-20, Tsui discloses the switch performs layer two/three switching at wirespeed (see col. 2, lines 54-61 and col. 8, lines 52-55 where a data frame is forwarded to a destination port based on its destination address embedded inside the data frame).

7. Claims 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui in view of Muller or LEVEL ONE as applied to claims 1 and 14 above, and further in view of Kawai et al (5,584,010).

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Regarding claims 2 and 15, Tsui does not specifically disclose each set of the at least two sets of communication channels comprises three communication channels. However, Kawai discloses a system that includes three communication channels (see channels 513, 504, and 505 in figure 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use three channels as taught by Kawai in the system of Tsui in order to provide control channels for controlling the system in addition to a data channel.

8. Claims 10-11 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui in view of Muller or LEVEL ONE as applied to claims 1 and 14 above, and further in view of Hegde.

Regarding claims 10-11 and 23-24, Tsui does not specifically disclose the use of VLAN tables and updating address information used in forwarding data packets at the plurality of data ports while the address information is received at one data port of the plurality of data port. However, using VLAN tables and updating address information are well known in the art. Hegde discloses VLAN tables (see figure 3 and col. 6, lines 1-3) and updating address information (see, for example, the abstract). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use VLAN tables and update the address information as taught by Hegde in the system of Tsui in order to communicate with VLAN networks and correctly forward the packets to its destination.

9. Claims 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui in view of Muller or LEVEL ONE as applied to claims 1 and 14 above, and further in view of Bray et al (6,483,849).

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Regarding claims 12 and 25, Tsui does not specifically disclose an auto-negotiating unit. However, this feature is well known in the art. Bray discloses this feature (see figure 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the auto-negotiating unit as taught by Bray in the system of Tsui so that different devices with different speeds can negotiate and communicate with the switch.

### ***Allowable Subject Matter***

10. The indicated allowability of claims 1-2, 4-7, 10-12, 14-15, 17-20, and 23-25 are withdrawn in view of the newly discovered reference(s) to Tsui et al (6,347,089), Muller et al (6,246,680), and Kawai et al (5,584,010).

11. Claims 3, 8-9, 13, 16, 21-22, 26, and 28-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 27 and 30-32 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

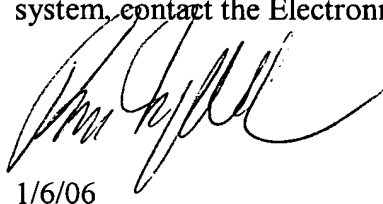
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



1/6/06

**BRIAN NGUYEN**  
**PRIMARY EXAMINER**